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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,329

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Michael John Hammond

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EXAMINER

NGUYEN, THONG Q

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,329	Applicant(s) HAMMOND ET AL.	
	Examiner Thong Nguyen	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/17/06&10/24/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Pre-Amendment

1. The present Office action is made in response to the Pre-amendment filed on 3/17/2006. It is noted that in the pre-amendment, applicant has made changes to the specification and the claims. Regarding to the claims, applicant has amended claims 1, 4-10, 12, 14 and 15, and canceled claim 11. As a result of the changes to the claims, the pending claims are claims 1-10 and 12-15 which claims are examined in this Office action.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement filed on 10/24/07 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the following reasons: First, the reference WO 2005/029152 is the application to which applicant claims a priority benefit under rule 35 USC 119; and second, the search report is not a proper prior art. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the

statement, including all certification requirements for statements under 37 CFR 1.97(e).
See MPEP § 609.05(a).

Drawings

4. The drawings contains a single sheet of figure 1 were received on 3/17/06.

These drawings are objected by the examiner for the following reasons.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature related to the object as recited in claims 1 and 12; and the feature related to optics to adjust the separation between the object and the objective lens under the control of the focus system as recited in claim 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The numerical reference “36” as stated in page 13 of the specification is not shown in the figure. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. The abstract of the priority reference WO 2005/029152 is used as the abstract of the present application. The abstract is objected to because the term “means” is repeatedly used. Correction is required. See MPEP § 608.01(b).

8. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

9. The lengthy specification which is amended by the amendment of 3/17/06 has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

10. The disclosure is objected to because of the following informalities: Regarding to the request to amend the specification in page 4 , line 4 as provided in the Pre-amendment of page 2, such request is not approved by the applicant has not shown the mark-up change(s) to the section/paragraph to which applicant wishes to amend. Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2872

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-10 and 12-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 1 is rejected under 35 USC 112, second paragraph because each of the features "the object" (line 3), "the instrument" (line 12), and "the object distance" (line 15) lacks a proper antecedent basis.

b) Claim 3 is unclear about the structural relationship between the single imaging means recited on line 3 of the claim and the imaging system recited on its base claim 1, lines 12-13. Applicant should note that the specification discloses a first optical and imaging system having relay lens system (27, 29) and a dihedral mirror (28) for providing two images of an object to a charged-coupled camera (11), and a second optical and imaging system for providing image of the object to another charged-coupled device (13) via lens (35). The camera (11) is used to measure the separation between the first and second imaging regions (31, 32). It is noted that the specification does not disclose the use of a single imaging means different from the first optical and imaging system as claimed in claim 3 and its base claim 1.

c) Claim 5 is indefinite by the feature thereof "The method of claim 1, further comprising successively repeating the stages of any preceding claim to ...the imaging pupil" (lines 1-3). It is unclear what applicant mean by "the stages of any preceding claim" (line 2); Second, each of the features "the imaging pupil" (line 3), "the focusing information" (line 5) lacks a proper antecedent basis; and third, the feature thereof "to

Art Unit: 2872

obtain focusing....from planarity" (lines 5-7) is indefinite. Applicant should note that the phrase "particular to accommodate...planarity" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

d) Claim 6 is indefinite because the feature "the focus investigation" (line 2) lacks a proper antecedent basis.

e) Claim 7 is indefinite for the following reasons: First, each of the features "the sample" (line 2), "the focus condition" (lines 3-4), and "the primary observation optical system" (lines 4-5) lacks a proper antecedent basis; and second, it is unclear about unclear about the structural relationship between the focus optical system and imaging system recited on line 3 of the claim and the imaging system recited on its base claim 1, lines 12-13. Applicant should note that the specification discloses a first optical and imaging system having relay lens system (27, 29) and a dihedral mirror (28) for providing two images of an object to a charged-coupled camera (11), and a second optical and imaging system for providing image of the object to another charged-coupled device (13) via lens (35). The camera (11) is used to measure the separation between the first and second imaging regions (31, 32). It is noted that the specification does not disclose the use of a focus optical system and imaging system different from the first optical and imaging system as claimed in claim 7 and its base claim 1.

f) Claim 8 is indefinite because the feature "the focus condition" (line 2) lacks a proper antecedent basis.

g) Claim 9 is indefinite because the feature “two portions” (line 3) lacks a proper antecedent basis. Further, it is unclear about the structural relationship between the so-called “an imaging means” recited on line 5 of the claim and the imaging system recited on its base claim 1, lines 12-13. Applicant should note that the specification discloses a first optical and imaging system having relay lens system (27, 29) and a dihedral mirror (28) for providing two images of an object to a charged-coupled camera (11), and a second optical and imaging system for providing image of the object to another charged-coupled device (13) via lens (35). The camera (11) is used to measure the separation between the first and second imaging regions (31, 32). It is noted that the specification does not disclose the use of another imaging means different from the imaging system as claimed in claim 9 and its base claim 1.

h) Claim 10 is indefinite because the feature “the illumination beam” (line 2) lacks a proper antecedent basis

i) Claim 12 is indefinite for the following reasons: First, each of the features “the objective lens” (lines 2-3), “the object” (line 3), “the optical axis” (lines 4-5), “the object distance” (line 10), “the imaging objective lens” (line 11) and “the focus system” (lines 11-12) lacks a proper antecedent basis; Second, the feature “the system” (line 6) is unclear. It is unclear to which system, i.e., a microscope auto-focus system as recited on line 1 or the imaging system as recited on line 6, does the feature “the system” refers; and Third, the feature thereof “the system further...the optical axis” (lines 6-8) is unclear. What does applicant mean by the mentioned feature?

j) Claim 13 is rejected under 35 USC 112, second paragraph for the following reasons: First, the feature thereof “a second optical...observational (for example petrology) step” (lines 3-5) is unclear. In particular, the phrase "for example petrology" (line 5) renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d); Second, the feature thereof “a beam splitter and/ or selective optics...either imaging system and/ or partially to both” (lines 5-7) is unclear. It is entirely unclear about the structure of the beam splitter and the so-called "selective optics disposed therebetween" and their structural relationships with other components of the auto-focus system as recited in the mentioned feature; and Third, it is unclear about the structural relationships among the first optical and imaging system, the second optical and imaging system as recited in claim 13, lines 2-5 and the camera as recited in base claim 12, lines 9-10. Applicant should note that the specification discloses a first optical and imaging system having relay lens system (27, 29) and a dihedral mirror (28) for providing two images of an object to a charged-coupled camera (11), and a second optical and imaging system for providing image of the object to another charged-coupled device (13) via lens (35). The camera (11) is used to measure the separation between the first and second imaging regions (31, 32). It is noted that the specification does not disclose all three systems including a first optical and imaging system, a second optical and imaging system the camera as claimed.

k) Claim 14 is indefinite because the feature “the means” (line 2) lacks a proper antecedent basis.

l) Claim 15 is indefinite because it depends upon a canceled claim.

m) The remaining claims are dependent upon the rejected base claims and thus inherit the deficiencies thereof.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1-10 and 12-15, as best as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Mueller (U.S. Patent No. 4,025,785).

Mueller discloses an autofocus system for a stereomicroscope. The autofocus system as described in columns 2-4 and shown in the single figure comprises the following features: a) an illuminating system comprises a light source (15), a condenser lens (16), a stop (17) disposed around the optical axis of the illuminating light path for limiting the spatial extend of the illuminating light wherein the centroid of the illumination is on the optical axis of the illuminating light path; a collimating lens (18) and a mirror (19) for reflecting illuminating light onto the top focal plane of an objective (1); b) a common objective lens (1) for focusing illuminating light onto an object (4); c) a focus and imaging system comprises a set of objective lenses (2, 3); dihedral mirrors or beamsplitters (20, 21); eyepiece lenses (7, 8); guiding mirrors (24, 25); blades (26, 27); lenses (30, 31); and d) a detecting system comprises detectors (32, 33) and control system

(34-35, 38-43) for detecting the signals provided by the detectors (32, 33) for controlling the movement of the stereomicroscope with respect to the object to adjust the focusing process. It is noted that the difference in size of the images caused by an out-of-focus position of the object with respect to the stereomicroscope will provide an observer and/or the detecting system the information related to the separation of the two images and the distance between the object with respect to the stereomicroscope.

Regarding to the feature related to the detector array, such feature is disclosed by Mueller when he discloses the use of two detectors (32, 33) which constitutes a single imaging system for the entire stereomicroscope. Regarding to the feature related to the successively repeating stages, such feature is inherently from the apparatus provided by Muller because the process of adjusting the in-focus of the object is made by a series of detecting the signals and moving the microscope with respect to the object in order to bring from an out-of-focus stage of the object to an in-focus stage of the object. Regarding to the feature related to an observation system, such feature is disclosed by Mueller as can be seen in the observation system comprises a pair of objective lenses (2, 30 and eyepiece lenses (7, 8).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Nguyen whose telephone number is (571) 272-2316. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on (571) 272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thong Nguyen/

Primary Examiner, Art Unit 2872